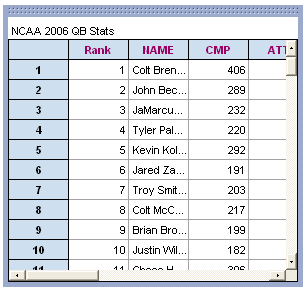
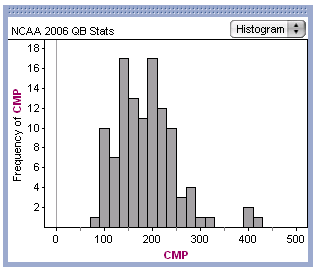
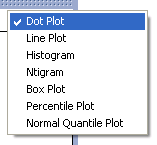
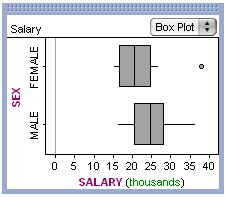
**FATHOM/EXCEL Quick Reference**



**Inputting your own data**

* Open a new fathom document
* Pull down a collection
* While the Collection icon is highlighted, pull down a TABLE
* At the top of the table, type in your variable names
* Type data in below variable names
* Keep this table open while you are doing all data analysis

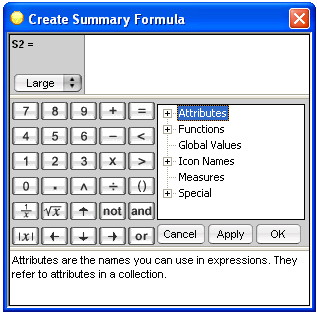
**Making graphs**

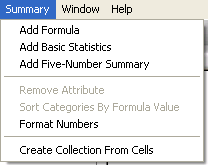
* Pull down the GRAPH icon
* Drag the variable(s) that you want from the TABLE to the GRAPH
* You can change the type of graph in the top right corner
* To split graph by a categorical variable (like gender):
  + Drag the quantitative variable to the X axis
  + Drag the categorical variable to the Y axis

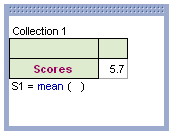
**Copying Graphs to Word Documents or Power Point slideshows**

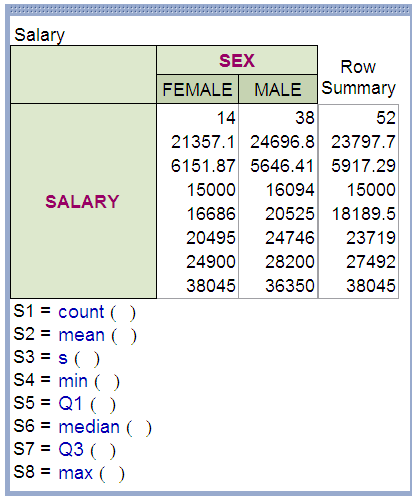
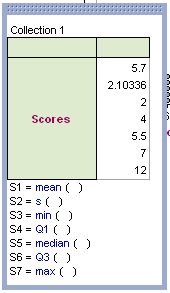
* To copy a graph to a word document, select the graph
* In the menu select Edit->Copy as Picture or hit Ctrl+Shift+C
* In your word document select Edit->Paste or hit Ctrl+V

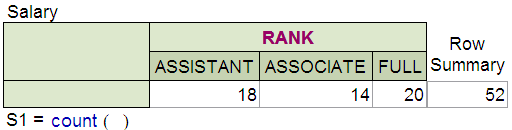
**Using the “Snipping tool” to copy things from Fathom**

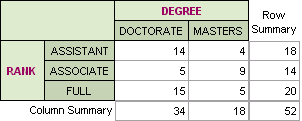
* Click on the WINDOWS icon (bottom left corner of your computer screen
* Click on “All Programs 🡪”
* Find the Snipping tool, and click on it so it opens
* You will see the screen go gray, and then your mouse will turn into a “**+**”
* Use the mouse to “highlight” whatever it is you want to copy.
* You will then see the image you highlighted. Copy this (CTRL + C) and then go to your document (Word or Power Point) and paste the image (CTRL + V).

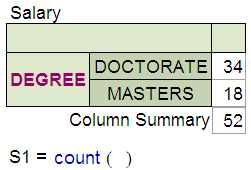


**Finding Summary statistics**

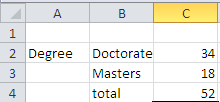
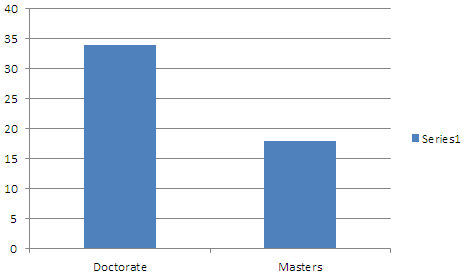
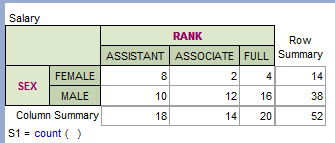
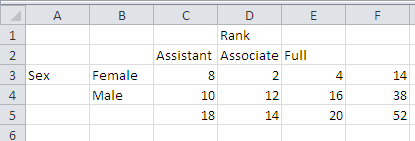
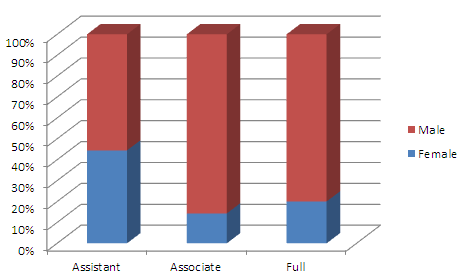
* Pull down a SUMMARY icon
* Drag the Variable that you want into the summary table
* The mean should show up
* To add std. deviation, go to the SUMMARY menu at the top of the screen, click on “Add Formulas,” then type in S() and hit ENTER
* To add 5# summary, go to the SUMMARY menu at the top of the screen, and click on “Add 5 Number Summary”
* To break down summary statistics by a categorical variable (like Gender), do the same process as above. However afterwards, drag the categorical variable to the top of the summary table

**Creating a table or a two way table (categorical data)**

* Pull down a new summary table
* Drag the variable to the top of the table. This will create a table for one categorical variable.
* To create a two-way table, drag a second categorical variable to the left side of the summary table.



**Creating Bar Graphs (using EXCEL)**

* Open an Excel document
* Create a summary table of a categorical variable. (like the one at right)
* Transfer the table you just created on Fathom to Excel by hand (you cannot copy and paste)
* (In Excel) Highlight just the data (don’t include the variable name and don’t include the total).
* Go to Insert 🡪 Column 🡪 2D column 🡪 and pick the one at the top left.
* This will create a bar chart for you. You can edit the title and other things on the chart.
* You can also select 3D column, for a fancier picture.
* Pie charts can also be selected.
* To create a stacked (segmented) bar chart, first create a 2 way table (with 2 categorical variables). (like the one below, at left)
* Transfer the table to Excel by hand
* Highlight the data (again, don’t include totals or variable names) and go to Insert 🡪 2D or 3D column 🡪 and use the 3rd one over (the one where the bars go all the way up to the top).

**Making Scatterplots**

* Drag down a new graph. Grab the X variable and drag it to the x-axis.
* Grab Y variable and drag it to the y-axis of the graph.
* You should have a scatterplot

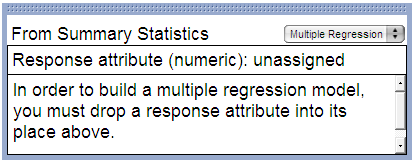
**Finding correlation coefficient**

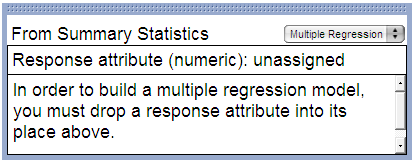
* Drag down a new summary table.
* Drag the X variable to the left side of the table
* Drag the Y variable to the top of the table
* The correlation coefficient should be stated in the center.

**Finding the LSR line, and the Residual plot**

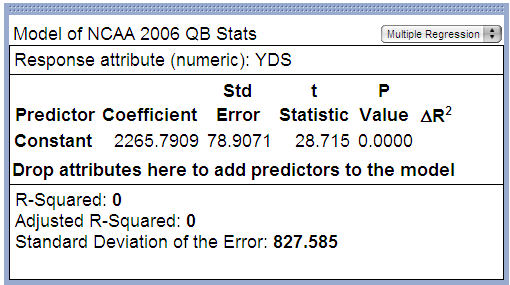
* While the scatterplot is highlighted, go to the drop-down menu GRAPH and click on “Least-Squares line”
* You will notice that the LSR line has been added to your scatterplot and the equation and r2 are listed down at the bottom of the plot.
* To make the residual plot: Make sure the graph is still highlighted, and go to the menu GRAPH again, and this time click on “Make Residual Plot”
* The residual plot will appear below the scatterplot. Make the entire picture bigger so you can clearly see the residual plot.
* You can use the snipping tool to put the residual plot on your power point separately from the scatterplot.



**Finding the equation of the LSRL (LSR line)**

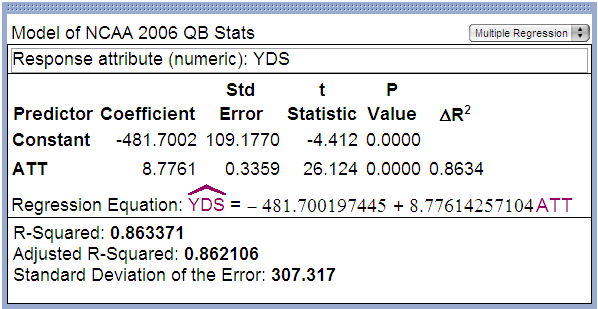
* Drag down a MODEL
* Change the type (in the top right corner) to “Multiple Regression”
* Click on the “MODEL” menu at the top of the page
* Click on “Hide Sequential Contributions chart”
* Click on the “MODEL” menu again, and then click on “Hide ANOVA table”
* Drag the Y-variable to the top, where it says

“Response attribute (numeric): unassigned”

* Drag the X-Variable to the top middle, where it says

“Drop attributes here to add predictors to the model”

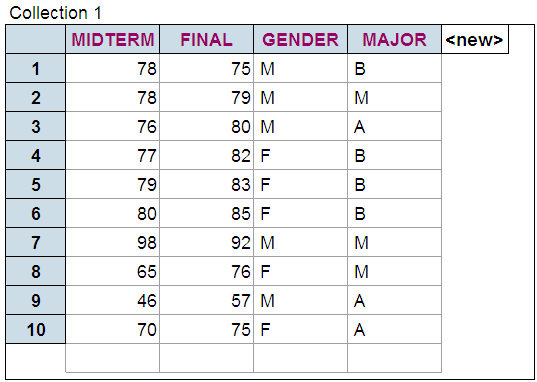
* You will then see a lot of data analysis like this:

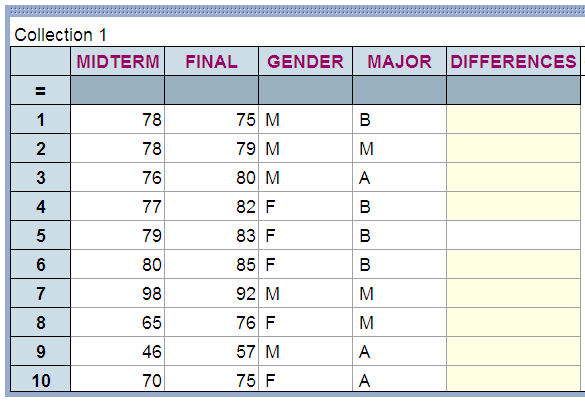


* LSR line- round the slope and Y-Intercept to 3 decimal places

Example from above: = -481.700 + 8.776(ATT)

* Don’t forget to put a “HAT” over the Y-variable!

**Subtracting one list of data from another list:**

* In your table of data, scroll over until you find a blank variable “<NEW>”
* Rename it (DIFFERENCES)
* Go up to the TABLE menu, and click on “Show Formulas.” You will see a Gray row appear at the top of your table.
* Double click on the gray box in the “Differences” column. A Formula window will appear.
* On the right side of this window, you will see “+Attributes.” Click on the + sign next to ATTRIBUTES.
* Then double click on FINAL, type a subtraction sign, then double click on MIDTERM (see below)
* Then hit the OK button. You will now see the list of differences.

